



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/697,742

10/30/2003

Thomas J. LeMense

LEAR 04104 PUS

8748

34007

7590

03/17/2005

BROOKS KUSHMAN P.C. / LEAR CORPORATION
1000 TOWN CENTER
TWENTY-SECOND FLOOR
SOUTHFIELD, MI 48075-1238

EXAMINER

HUNNINGS, TRAVIS R

ART UNIT

PAPER NUMBER

2632

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/697,742

Applicant(s)

LEMENSE ET AL.

Examiner

Travis R Hunnings

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 18 recites the limitation "LF command signal" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-9 and 11-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Porter et al. (Porter; US Patent 6,745,624) in view of Selektor (US Patent Publication 2003/0129949).

Regarding claim 1, Porter discloses *Method And System For Calibrating A Tire Pressure Sensing System For An Automotive Vehicle* that has the following claimed subject matters:

The claimed system comprising at least one TPM sensor, wherein the at least one TPM sensor comprises a transceiver that receives the at least one LF sensor diagnostic signal and, when the at least one TPM sensor is operating properly, presents at least one radio frequency (RF) message signal is met by the pressure sensors mounted on the wheels of the vehicle receiving a calibration (diagnostic) signal that causes the pressure sensor to transmit a serial number (message signal) to a central controller (it would have been obvious that the pressure sensor transmits the serial number (message signal) when working, if the pressure sensor is not working then it obviously cannot transmit the serial number (message signal)) (col1 62-67 and col2 1-25). The pressure sensor transmits the serial number (message signal) via EM coupling, it would have been obvious to use radio frequency signals to transmit the serial number (message signal) because EM includes RF signals (i.e. RF signal is an electromagnetic signal);

The claimed system comprising a TPM receiver that receives the at least one RF message signal and provides an indication to an operator when the at least one RF message signal is received, wherein the LF sensor diagnostic signal is transmitted to determine proper operation of the at least one TPM sensor is met by the controller receiving the serial number (message signal) from the pressure sensors and providing indicators or audio signals to confirm the successful receipt of the calibration information signal (message signal) and the activating of the calibration routine by the remote in order to properly calibrate the pressure sensors to ensure proper operation of the system (col1 62-67, 1-25 and col4 34-65);

Porter discloses a remote transmitter that has separate remote keyless entry functionality along with a pressure sensor calibration initiation button; however, Porter does not specifically disclose the system comprising an immobilizer transmitter that transmits at least one low frequency (LF) diagnostic signal. Selektor discloses *Remote Control Communication Including Secure Synchronization* that teaches a combination remote keyless entry and vehicle immobilization controller that operates at low frequency (paragraphs 12 and 16). Modifying the remote of Porter to include immobilization functionality would allow the user to control vehicle immobilization features with the same remote instead of carrying multiple remotes. Modifying the remote of Porter to transmit at a low frequency would allow the device to be more secure and also allow for encryption of the signal. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Porter according to the teachings of Selektor to have a remote transmitter capable of vehicle immobilization and transmission of signals at low frequency.

Regarding claim 3, Porter and Selektor disclose all of the claimed limitations. The claimed system wherein the operator initiates transmission of the LF sensor diagnostic signal independently of vehicle immobilization operation is met by the remote having a calibrate tire sensor button that initiates the calibration routine (col4 34-65).

Regarding claim 4, Porter and Selektor disclose all of the claimed limitations. The claimed system wherein the immobilizer transmitter transmits at least one second

LF signal that is related to at least one vehicle theft deterrent operation is met by the remote having a door lock button that locks the doors of the vehicle and helps to prevent theft (col1 62-67, col2 1-25 and figure 1).

Regarding claim 5, Porter and Selektor disclose all of the claimed limitations.

The claimed system wherein the TPM receiver is a combination remote keyless entry (RKE) and TPM receiver and provides at least one RKE operation is met by the controller being incorporated into a remote keyless entry device and the remote having both door lock and unlock buttons (col2 1-25 and figure 1).

Regarding claim 6, Porter and Selektor disclose all of the claimed limitations.

The claimed system wherein the LF sensor diagnostic signal is transmitted in connection with at least one of a TPM sensor test, a TPM sensor diagnosis, a TPM system diagnosis, a TPM sensor association to the TPM system and a TPM sensor location association on a vehicle is met by the pressure sensor being associated with the controller after the calibration routine is completed (col4 34-65).

Regarding claim 7, Porter and Selektor disclose all of the claimed limitations.

The claimed system wherein the TPM sensor further comprises an antenna that is configured to receive the at least one LF sensor diagnostic signal and present the at least one RF message signal is met by the antenna of the pressure sensor being able to communicate with both the remote and the controller (figure 2). The examiner takes

Art Unit: 2632

official notice that it is well known in the art to have a single antenna that can transmit and receive at multiple frequencies.

Regarding claim 8, Porter and Selektor disclose all of the claimed limitations.

The claimed system wherein the TPM sensor is positioned at a desired location at or near a vehicle is met by the pressure sensor being placed on a wheel on a vehicle (figure 2).

Regarding claim 9, the claim is interpreted and rejected as claim 1 stated above.

Regarding claim 11, the claim is interpreted and rejected as claim 3 stated above.

Regarding claim 12, the claim is interpreted and rejected as claim 4 stated above.

Regarding claim 13, the claim is interpreted and rejected as claim 5 stated above.

Regarding claim 14, the claim is interpreted and rejected as claim 6 stated above.

Regarding claim 15, the claim is interpreted and rejected as claim 7 stated above.

Regarding claim 16, the claim is interpreted and rejected as claim 8 stated above.

5. Claims 2, 10 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Porter in view of Selektor and further in view of Mendez et al. (Mendez; US Patent 5,612,671).

Regarding claim 2, Porter and Selektor disclose all of the claimed limitations except for the claimed system wherein the TPM receiver provides an alert to the operator when the at least one RF message signal is not received in response to the LF sensor diagnostic signal. Mendez discloses *Method Of Learning Tire Pressure Transmitter ID* that teaches sending RF signals to a central receiver to indicate proper operation of the pressure sensors and indicating to the user that it failed to receive a signal from one of the sensors (col2 46-52). Providing indication of a failure of receipt of a calibration (message signal) signal to the controller would give the user extra information regarding the operability of the pressure sensors. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Porter and Selektor according to the teachings of Mendez to

provide an alert to the operator when the at least one RF message signal is not received in response to the LF sensor diagnostic signal.

Regarding claim 10, the claim is interpreted and rejected as claim 2 stated above.

Regarding claim 17, Porter discloses the following claimed subject matters:

The claimed system comprising at least one TPM sensor, wherein the at least one TPM sensor comprises a transceiver that receives the at least one LF sensor diagnostic signal and, when the at least one TPM sensor is operating properly, presents at least one radio frequency (RF) message signal is met by the pressure sensors mounted on the wheels of the vehicle receiving a calibration (diagnostic) signal that causes the pressure sensor to transmit a serial number (message signal) to a central controller (it would have been obvious that the pressure sensor transmits the serial number (message signal) when working, if the pressure sensor is not working then it obviously cannot transmit the serial number (message signal)) (col1 62-67 and col2 1-25). The pressure sensor transmits the serial number (message signal) via EM coupling, it would have been obvious to use radio frequency signals to transmit the serial number (message signal) because EM includes RF signals (i.e. RF signal is an electromagnetic signal);

The claimed system comprising a combination remote keyless entry and TPM receiver that receives the at least one RF message signal and provides an indication to

an operator when the at least one RF message signal is received is met by the controller receiving the serial number (message signal) from the pressure sensors and providing indicators or audio signals to confirm the successful receipt of the calibration information signal (message signal) and the activating of the calibration routine by the remote in order to properly calibrate the pressure sensors to ensure proper operation of the system (col1 62-67, 1-25 and col4 34-65) and the controller being incorporated into a remote keyless entry device and the remote having both door lock and unlock buttons (col2 1-25 and figure 1);

However, Porter and Selektor do not specifically disclose the claimed system wherein the TPM receiver provides an alert to the operator when the at least one RF message signal is not received in response to the LF sensor diagnostic signal. Mendez teaches sending RF signals to a central receiver to indicate proper operation of the pressure sensors and indicating to the user that it failed to receive a signal from one of the sensors (col2 46-52). Providing indication of a failure of receipt of a calibration (message signal) signal to the controller would give the user extra information regarding the operability of the pressure sensors. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Porter and Selektor according to the teachings of Mendez to provide an alert to the operator when the at least one RF message signal is not received in response to the LF sensor diagnostic signal.

Porter discloses a remote transmitter that has separate remote keyless entry functionality along with a pressure sensor calibration initiation button; however, Porter

Art Unit: 2632

does not specifically disclose the system comprising an immobilizer transmitter that transmits at least one low frequency (LF) diagnostic signal. Selektor discloses *Remote Control Communication Including Secure Synchronization* that teaches a combination remote keyless entry and vehicle immobilization controller that operates at low frequency (paragraphs 12 and 16). Modifying the remote of Porter to include immobilization functionality would allow the user to control vehicle immobilization features with the same remote instead of carrying multiple remotes. Modifying the remote of Porter to transmit at a low frequency would allow the device to be more secure and also allow for encryption of the signal. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Porter according to the teachings of Selektor to have a remote transmitter capable of vehicle immobilization and transmission of signals at low frequency.

Regarding claim 18, Porter, Selektor and Mendez disclose all of the claimed limitations. The claimed system wherein the LF command signal is transmitted in connection with at least one of a TPM sensor test, a TPM sensor diagnosis, a TPM system diagnosis, a TPM sensor association to the TPM system and a TPM sensor location association on a vehicle is met by the pressure sensor being associated with the controller after the calibration routine is completed (col4 34-65).

Regarding claim 19, Porter, Selektor and Mendez disclose all of the claimed limitations. The claimed system wherein the operator initiates transmission of the LF

sensor diagnostic signal independently of vehicle immobilization operation is met by the remote having a calibrate tire sensor button that initiates the calibration routine (col4 34-65).

Regarding claim 20, Porter, Selektor and Mendez disclose all of the claimed limitations. The claimed system wherein the immobilizer transmitter transmits at least one second LF signal that is related to at least one vehicle theft deterrent operation is met by the remote having a door lock button that locks the doors of the vehicle and helps to prevent theft (col1 62-67, col2 1-25 and figure 1).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Pacsai, USP 6,438,467

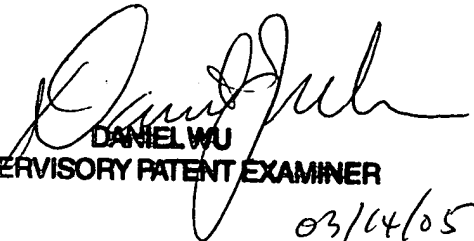
Handfield et al. USP 5,741,966

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R Hunnings whose telephone number is (571) 272-3118. The examiner can normally be reached on 8:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRH


DANIEL WU
SUPERVISORY PATENT EXAMINER
03/14/05